Constraints and Handicaps of Rural Development in Rwanda

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INTRODUCTION

The Rwandan population is now about 8 million, its annual growth rate being between 3% and 3.1%. About 94% of this population live in rural areas where their work is mainly related to agriculture and animal husbandry (91.1%).

However, the socio-economic living conditions in rural areas show a paradoxical situation: on the one hand, that the high proportion of farmers and cattle breeders should be able to produce enough food for self-sufficiency and sell the surplus at town markets in order to earn income; on the other hand, it is in rural area that malnutrition prevails and where there is the greatest poverty. This means that the development of Rwandan rural areas is confronted with serious problems. In the government policy on agriculture, food self-sufficiency is one of the top priorities. Nevertheless, this food self-sufficiency is under strong constraints and handicaps, particularly from the massive rural population growth which consequently leads to a progressive reduction of suitable land for cultivation. This problem has been aggravated mainly by the mountainous nature of the country and by inappropriate management methods. Excessive division of the exploitable land constitutes a challenge to maintaining the fragile food equilibrium and again makes the problem of food self-sufficiency more complicated.

In order to precisely define the problems of socio-economic development in rural areas, a research survey was under a joint –research project with the Institute of Developing Economies, entitled "Rwandan Reconstruction and Rural Areas."

One year of this research has highlighted some of the constraints and

handicaps to rural development, and a summary of the research is being presented at this symposium. I will also talk about the options defined by the Rwandan government in its agriculture policy for developing this vital sector of the national economy and to put an end to the vicious circle of poverty in the rural areas.

I. COUNTRY PROFILE

1.1 Geographic and climatic situation

a) Geographic situation

Rwanda is one of the smallest countries in Africa with an area of 26.338 km². Rwanda borders Uganda to the north, Tanzania to the east, Burundi to the south, and Democratic Republic of Congo to the west. The country is situated within a latitude of 1.5 - 2.5 south and 29 - 31 east. At the international level, Rwanda is a mountainous and land-locked country, being situated half way between Cairo and the Cap (South Africa), which is a distance of 7.400 km. Bearing in mind that development requires access to the international markets, that fact of being isolated constitutes a serious handicap to the development of the Rwandan economy.

b) Country relief

The relief of the country can generally be divided into 3 parts:

- The crest area dividing the Congo basin and Nil. This area is situated on a North-South line 160 km long and 20 - 50 km wide. Its altitude varies from 2000 to 3000 m.

- The central plateaux area. This area is situated east of Congo-Nil crest, being about 80 km in length and at a latitude varying between 1500 and 2000 m. It is criss-crossed by deep rivers and gullies and offers an original landscape of many different types of hills.

- The area east of the central plateaux that is more or less flat and makes up the rest of the country. This area is sprinkled with small lakes, valleys and savannahs. It varies between 1000 and 1500 m in altitude.

c) Agro-climatology

The land suitable for agriculture can be divided into 4 agro-climatic categories:

- The hot and dry low lands in the east;

Table 1 Basic Data on Rwanda

	Rwanda	Sub-Saharan Africa
Population in 1997 (million)	7.7	612.0
Rural (%)	94.0	68.0
Urban (%)	6.0	32.0
Growth rate of the population (annual average, 1980-97, in %)	3.6	2.8
Population density in 1997 (per km²)	303.0	25.01
Synthetic indication of fecundity in 1996	6.5	5.6
Contraceptive use rate (1990-96, % of women between 15 and 49 years old	21.0	NA
Working population (1996) in %		
Agriculture	91.1	70.0
Industry	1.7	7.5
Services	7.2	22.5
Ratio of dependence on foreign aid (1997)		
Foreign aid per capita (in US $)	42.6	26.0
Foreign aid in % GNP	17.6	5.0
Foreign aid in % investment	55.5	27.7
Foreign aid in % of imported goods and services	65.3	12.7
Literacy in % of the population aged 15+ (1996)	52.0	43.0
Annual percentage rate of schooling (primary level) 1996/97	80.1	75.0
Life expectancy at birth (1996, no. of years old)	49.0	54.0
Infant mortality rate (1996)	131.0	91.0
Mortality at 5 years old (1996)	205.0	147.0
Food production indication for 1994/96 (1989/91 = 100)	72.0	113.0
Needs satisfaction rate (%) in calories (1997)	64.0	96.0
Human development indication (1996)	0.2	0.3

References: "Rwanda Development Indicators" and "1996 Socio-Demographic Survey" by Minister of Finance and Economic Planning, and "World Development Indicators" by World Bank.

- The temperate hill lands of the central plateaux;
- The mountainous areas;
- The lands adjacent to Lake Kivu.

II. ECONOMIC SITUATION OF THE COUNTRY

Table 1 shows some recent data on Rwanda.

The Rwandan population is principally rural at 94%. The working population is in the following sectors is:

Agriculture: 91.1%
Industry: 1.7%
Services: 7.2%

The food production indication for 1996 in comparison with the 1991 figure is 72%. However, in 1999, given the integration of activities and population, this indication is estimated to be more than 80%.

The human development indication is 0.2, whereas, in the Sub-Saharan Africa, it is 0.3.

Table 2 shows the composition of the Rwandan gross domestic product (GDP). The contribution of agriculture and animal husbandry in the formation of GDP since 1994 is indicated, agriculture contributing 43% and industries 20%.

Table 3 shows the annual GDP proportions of agriculture and animal husbandry, and Table 4 shows the changing composition of animal and vegetable production.

Table 2 Gross Domestic Production per period of activity

Gross Domestic Production per period of activity (nominal, in million RWF)					
	1994	1995	1996	1997	1998
Agriculture					
Food crop	72,486	123,806	161,960	213,673	239,894
Export crop	549	8,456	6,895	5,392	5,531
of which coffee	291	8,214	6,108	4,498	4,108
Animal husbandry	5,668	11,040	23,235	25,799	23,017
Fishing	651	838	1,383	1,366	1,505
Forestry	3,129	4,815	6,846	5,762	6,873
Mines and pits	69	101	291	291	359
Industries	28,573	35,622	70,943	70,943	80,795
of which:					
- Food, drink and tobacco	24,184	28,774	56,939	56,939	64,037
- Textiles	666	1,218	4,251	4,251	5,491
- Woods and furniture	827	845	1,236	1,236	1,451
- Printing	158	244	514	514	592
- Chemicals	598	443	901	901	1,038
- Non-metals	1,729	3,088	5,594	5,594	6,447
- Metals	365	899	1,341	1,341	1,546
- Others	46	112	168	168	193
Electricity, gas and water	1,040	1,739	2,772	2,772	3,004
Construction	5,403	18,257	33,617	33,617	41,522
Services					
Wholesale and retail business, restaurants and hotels	26,183	46,513	42,892	58,134	67,228
of which:					
- Wholesale and retail business	24,297	44,693	40,530	55,145	63,829
- Restaurants and hotels	1,887	1,821	2,362	2,989	3,399
Storage transportation and communication	1,505	13,979	16,354	22,634	26,143

Finance, insurance, property affairs	1320	7346	8065	12538	15136
of which:					
- banking institutions	1285	6297	8020	12489	15076
- public administration	11438	22400	30167	40151	51656
- non-profit institutions	3936	3643	6934	7470	7601
- Others:	2779	38614	43678	56794	63937
Minus: charged production of banking services	735	9578	8599	8304	7473
Plus: Import taxes	1797	6909	10675	13450	14953
Gross Domestic Production					

References: Ministry of Finance and Economic Planning

Table 3 Proportion of the Agriculture and Animal Husbandry Sector in Gross Domestic Production

	1994	1995	1996	1997	1998
G.D.P.	165,792	337,200	431,140	562,481	631,680
Agriculture and animal husbandry	82,483	148,956	200,319	251,990	276,819
%	49.75	44.17	46.46	44.79	43.82

Table 4 Agricultural productions

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Grains (1000 t)	252	244	239	233	132	141	182	224.9	250
Legumes (100 t)	245	242	230	178	51	134	189	163.3	197
Bananas (1000 t)	2,777	2,120	2,316	2,136	1,489	2,002	2,106	2,248.4	2,259.25
Root crops and tubers (1000 t)	1,448	1,429	1,783	1,697	1,207	881	1,144	1,377	1,536.5
Total (1000 t)	4,722	4,035	4,568	4,244	2,879	3,158	6,621	4,014	4,243
kcal conversion (1000)	3,986	3,679	4,040	3,709	2,290	2,462	3,048	3,378	3,716
Protein conversion (1000 t)	96	92	94	82	40	55	73	75	85
Lipid conversion (1000 t)	15	15	15	13	6	9	11	12	14
Population (1000)	6,985	7,203	7,424	7,650	5,514	6,193	7,579	7,856	8,085
kcal/person·day	1,587	1,421	1,513	1,348	953	1,152	1,213	1,199	1,277
Protein g/person·day	38	36	35	30	17	26	29	27	29
Lipid g/person·day	6	6	6	5	3	4	5	4	5
% of 1990 annual productions	1.00	0.85	0.97	0.90	0.61	0.67	0.77	0.85	0.90
Bovine meat (1000 t)	8.4	8.6	8.8	9.0	9.0	9.6	9.2	9.6	10.0
Goat meat (1000 t)	7.9	8.1	8.3	8.5	8.7	3.9	4.4	4.7	4.9
Ovine meat (1000)	2.2	2.3	2.3	2.4	2.5	1.3	1.4	1.5	1.6
Porcine meat (1000)	10.2	10.5	10.8	11.1	11.4	9.1	10.2	10.8	11.3
Rabbit meat (1000)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Poultry meat (1000 t)	1.8	1.9	2.0	2.1	2.1	1.5	1.6	1.7	1.8
Total meat (1000 t)	30.8	31.7	32.5	33.4	34.1	25.7	27.2	28.7	30.1
Milk (1,000,000 litres)	30.3	31.0	31.8	32.5	32.7	34.6	33.3	34.7	36.1
Eggs (tons)	971	1,007	1043	1079	1115	792	864	916	971
Fish (1000 tons)	5.3	5.0	5.2	5.3	1.3	0.0	1.5	1.7	2.0
kcal conversion (1000)	99.9	102.1	104.8	107.5	105.5	88.7	93.0	97.8	102.5
Protein conversion (1000 t)	6.5	6.6	6.8	6.9	6.4	5.0	5.4	5.6	5.9
Lipid conversion (1000 t)	7.1	7.2	7.4	7.6	7.6	6.4	6.7	7.1	7.4
kcal/person/day	40	39	39	39	44	42	37	35	35
Protein g/person/day	3	3	3	3	3	2	2	2	2
Lipid g/person/day	3	3	3	3	3	3	3	3	3

Total									
kcal/person/day	1,627	1,460	1,553	1,387	997	1,194	1,250	1,234	1,313
Protein g/person/day	41	38	38	32	19	28	31	29	31
Lipid g/person/day	9	8	8	7	6	7	7	7	7
Needs satisfaction rate									
Year	1980					1995			
Calories	77%	70%	74%	66%	47%	57%	60%	59%	63%
Proteins	69%	65%	64%	55%	33%	48%	53%	48%	53%
Lipids	22%	21%	21%	19%	14%	18%	18%	17%	18%
Livestock: Number of heads (1000)									
Bovines	630	645	660	675	680	720	693	693	693
Goats	1111	1141	1171	1201	1231	550	621	658	698
Ovines	384	394	404	414	424	220	248	263	279
Pigs	134	138	142	146	150	120	134	142	149
Poultry	1849	1399	1449	1499	1549	1100	1200	1272	1348
Rabbits	292	294	296	298	300	300	300	306	312

References: MINAGRI annual reports and the following hypotheses: annual productivity parameters.

Charges per every livestock

Bovines	13.3 kg of meat and 48.11 l of milk	x 1.04 since 1996	Extrapolated from 1988 to 1994
Goats	7.07 kg of meat	x 1.06 since 1996	" " " " "
Ovines	5.78 kg of meat	x 1.06 since 1996	" " " " "
Pigs	75.8 kg of meat	x 1.06 since 1996	" " " " "
Poultry	1.37 of meat and 0.72 kg of eggs	x 1.06 since 1996	" " " " "
Rabbits 1.27 kg of meat		x 1.02 since 1996	" " " " "

The following hypotheses were taken into consideration for vegetable projections:

1. For 1997, a data survey of the harvest expectation supervised by MINAGRI, FAO and PAM (WFP) was used.
2. Production for 2010 is based on SDA data (area available for food producing, important yields of crops).
3. Production during the intermediate years is calculated by interpolation between 1997 and 2010.

III. RESEARCH RESULTS

Surveys carried out in Gishamvu and Rukara communes on agricultural exploitation and the living standard in Rwanda (1999), those in Runyinya, Nyakizu and Ntyazo communes (1998) on the real needs of widows and orphans, and those carried out on the adoption of agro-forestry techniques (Gikongoro, Ruhengeri, Kigali-rural, Umutara and Kibungo) within the ISAR-ICRAF project (1997) enabled identification of the constraints and handicaps of rural development in the following respects:

- The level of priority needs and the rural development dynamism
- The production level of vegetable, animal, agro-forestry piscicultural, etc.
- Countermeasures against erosion and the development of wetland
- The level of research into rural development
- Diffusion of agricultural techniques
- Settlement system
- Accessibility of potable water
- Living standard of the population
- The organisation level of rural communities

The most serious problem for rural families is the food shortage that results in an unbalanced diet.

In a continued survey, it was noted that the main family meal is made from beans and sweet potatoes. The variety of food is limited to cooked bananas, rice, manioc and some vegetables. This can be seen in Table 5 -

In Ryamanyoni sector, this imbalance in the diet is somewhat corrected by milk consumption. The problem becomes crucial when climatic risks such as drought prevail. In these circumstances, people are obliged to look to the market for supplies. However, as we have already seen, the financial resources of rural households are very limited. Under these conditions, famine and food shortages are inevitable.

3.1. Obstacles and difficulties

Obstacles and difficulties declared by the farmers in the current survey are summarized in Tables 6 and 7.

An analysis of these answers reveals problems in the practice, socio-economic and cultural obstacles, other different interdependent constraints

Table 5 Meal Composition of Ten Families (April – July 1999)

ID No.	No. of surveyed days	Meal composition																		Drink composition							
		Pd	Ha	Au	Pa	Pp	Pt	Fr	Le	Vi	Sg	Ar	Sj	Frt	Ri	Bn	Mz	Mc	Co	So	O	Bi	Bbn	Bsg	Ju	Th	Pr	Lt
G1	89	79	77	3		6		1	45	1			1	1	1	5	1	17	10	2	65	46	12		7	9		
G2	90	48	74		28	9	1	7	59	6					23	4	1	9	2	1	44	69	46	4	2		1	
G3	89	31	76	1	2	7	5		15						4	13		1	16		45	31	9	1	2	3	1	
G4	90	33	71		40	13	1	1	41	3					28	12	2	23	11		74	79	29	6	6		2	4
G5	90	64	75	0	27	14	0	0	35	4			0	0	6	6	0	9	11	0	71	58	13	21	2	0	0	0
R1	70	44	9		3	2	12		1	2					3	59	5	65			1	68	17	14	1		9	70
R2	86	27	75		14		20		25	4	2	1			1	20		13	1		46	54	40			10	6	15
R3	86	26	68		11				16	4		4			7	34		12			46	33	33	1		11	14	44
R4	38	18	32		4	1	10	3		2		4			4	21		6	1			12	18	4	1	8	1	29
R5	36	16	30		12		8			6		2			1	32		12			2	8	27	11	3	19	1	32

Legend:

G1-5: Families in Gishamvu Commune R1-5: Families in Rukara Commune

Pd: sweet potato Ha: bean Au: aubergine Pa: cassava Pp: pea Pt: potato Fr: fruit Le: vegetable Vi: meat

Sg: sorghum Ar: groundnut Sj: soy Frt: fry Ri: rice Bn: banana Mz: maize Mc: manioc Co: taro So: sunflower

O: water Bi: porridge Bbn: banana beer Bsg: sorghum beer Ju: juice Th: tea Pr: industrial beer (Primus) Lt: milk

Table 6 Problems for peasants

Type of difficulty	Responding families	
	Gishamvu	Rukara
1. Disease	77	60
2. Impecunity	38	79
3. Weakness	14	1
4. Age	6	
5. Lack of training	2	
6. Scattered settlement	3	
7. Lack of transport	0	1
8. Lack of market	1	11
9. Lack of pasturage	0	2

Table 7 Obstacles for peasants

Type of obstacle	Responding families	
	Gishamvu	Rukara
1. Seed shortage	35	5
2. Manure shortage	49	22
3. Bad harvest	10	7
4. Tool shortage	61	65
5. Bad season	22	7
6. Working alone	13	3
7. Land shortage	32	35
8. Moles (Ifuku)	15	0
9. Fertilizer shortage	3	29
10. Infertile soil	2	1
11. Theft	2	3
12. Drought	3	82
13. Mice	0	25
14. Water shortage	0	6
15. Long distance	0	5

which become entangled.

a) Problem in the practice

The cultivation and agricultural methods recommended by researchers and extension services have been, in many cases, inappropriate to the rural area and peasant mentality. Agricultural methods have remained in their archaic state because of climatic irregularity, lack of technique training and the lack of response by the peasants to the prospect of better yields.

b) Socio-economic and cultural obstacles

The following socio-economic and cultural obstacles can be added to the foregoing technical obstacles:

- Family expenditures due to a large number of children
- Lack of qualified manpower
- High family expenses
- Social integration difficulties which cause social instability and block work investment
- Psychological traumatism
- Non-diversity of production sectors
- Scattered settlements

c) Constraints

The constraints preventing the rural areas being developed and inhibiting an improved standard of living are very many and are connected to each other.

The important points can be summarized as follows:

1. The demographic pressure which leads to a large number of very small fields of less than 0.3 ha that are farmed by nearly 2 million peasants.

2. Most of the agricultural land is subjected to strong erosion due to the method of clearing, the undulating topography under frequent precipitation and the over-exploitation of land by inappropriate methods.

3. Most of the arable land is infertile and has no fertilizer applied.

4. Crop rotation and fallowing are not appropriately practiced.

5. The scarcity of factors for production due to the lack of capital such as agricultural assets, animals, and fertilizers.

6. The shortage of energy for families and the resort to wood which only

covers 87% of the energy needs. The projection for the year 2000 show that the balance of supply/demand for firewood will mark a deficit of 5,798,780 nn/annum.

7. The limited capacity for intervention by support services to agriculture, especially to provide personnel training and to avoid the destruction of infrastructure.

8. The lack of training services and of provision circuits.

9. The weak organization of producers at all levels.

10. The restricted internal market; the urban market is very limited and families in the rural areas have weak purchasing power.

11. The financial constraints that limit the means of intervention by concerned organisation and institutions, causing difficulties in the access to credit by producers.

12. The climatic hazards.

There were consecutive climatic irregularities in these years. This disturbed the normal rhythm of the cultivating seasons which brought about destruction of the harvest and intensified plant diseases.

13. Ignorance and lack of instruction

The peasants must utilise fertilizers to produce much more on the cultivable land. The utilization and good management of fertilizers requires peasants to have a certain knowledge provided by suitable instruction.

The study in Gishanvu and Rukara Commune indicates that 33% and 42.2%, respectively, of the people who were surveyed could neither read nor write. Only 23.57% and 24.88%, respectively, had completed 6 years of primary school. In Gishanvu, no farmer in the sample had completed primary schooling, and 5.6% of those investigated in Rukara had completed one, two, or three years of secondary schooling. This low level of education is expressed in agriculture and animal husbandry practices by:

* The persistence of archaic agricultural techniques
* Ignorance of the role of fertilizers and of how to use them.

The outline here illustrates the interconnection between the constraints, and three particular constraints which should be deeply analysed:

- Food deficit
- Energy deficit
- Monetary deficit

This outline shows that the peasant, Rwandan actor n° 1 in rural development, is constrained by handicaps which do not permit him to break free from the vicious circle of poverty.

a) Food deficit

Crop production is insufficient to provide the food needed for rural families each year, since they have to sell some to provide money for other requirements. Some months before the harvest require the peasants to buy food:

- Beans (80%)
- Sorghum (49%)
- Tubercles (28%)

b) Energy deficit

Firewood is practically the only source of domestic energy. 31% of the investigated farmers confirmed that they do not have access to trees in order to find firewood easily. They resort to residue of the harvest plants and uprooted by ploughing (urwiri). 35% of those surveyed confirmed that they bought firewood.

c) Monetary deficit

The principle sources of monetary income in the several zones of the country are banana plantations (urwagwa) and tea. The surveys show that yields are dropping due to the irregular climate.

Consequences

Lack of money in the families prevents them from balancing essential family expenses. The factors responsible for low incomes are:

- Insufficient animal production
- Insufficient production of fruits and vegetables
- Lack of job prospects outside the agricultural sphere

The standard of living in the rural areas is generally on the doorstep of absolute poverty: processing and selling agricultural and animal products are minimal, and the derived income is insufficient to meet needs.

The unbalanced diet is particularly serious in certain remote rural areas. This problem results from the handicaps and constraint, which will be mentioned next.

3.2. Consequences of these constraints and handicaps

These problems appear to be the result of several closely connected factors and have a sometimes disastrous impact on the life of the citizens.

a) Pauperisation of the farmers

The decreasing agricultural production per family, which is the principle source of income for the peasants, is expressed by the dramatic degradation in living standards. The majority of those investigated live in poverty with a monthly income of 500 RWF, which is equivalent to about 1.5 $ USA.

b) The unbalanced diet

The low living standards are expressed by the food shortage which results in an unbalanced diet within the family.

This leads to the outbreak of diseases which in turn reduces the working capacity of the family.

This investigation has not gone deeper into the possible solutions to those problems. However, the peasants expressed idea for solutions: they wished that the state or the NGOs would provide them with the agricultural inputs at an affordable price and in sufficient quantity. The peasants generally wish to have sufficient cattle which can supply at the same time manure for their fields. They want training in agricultural techniques in order to improve their knowledge and provide a new agricultural strategy capable of developing rural areas from the dead end in which they now are. The local administration can be an effective catalyst, and the organization of peasants into an association can be an operational framework for the struggle against the poverty that is obvious in the rural area.

In addition, at the national level, a well-directed agricultural policy can, in the medium and long term, encourage the farmers in their activities to break free from their pauperisation.

There are some features of the agricultural policy in the "horizon 2010," that constitutes the medium-term planning. The agricultural policy remains aimed at providing food security by the following means:

- Improving the agricultural strategy and its implication on available foodstuffs.
- The development of regional markets in order to provide better access to the supply of foodstuffs.
- The development of export-oriented farming in order to ameliorate

the agricultural productivity and increase cash incomes.

- The capacity for towns and rural centers (imidugudu) to finance community equipment.

3.3. Basic pillars of Rwandan agricultural policy

1. The plan for allocation of land proposes a reduction of the area under farming for the benefit of pasture, of afforestation, conservation of the draining valleys, and tea plantations.

This transfer of land use to benefit of soil management will require restructuring of the labour population and other types of work which needs to be foreseen.

2. The plan indicates the possibilities for diversified development according to the type of soil.

3. The plan shows that demographic support capacity for the soil is limited. Indeed, the proposed diversification according to the soil type should lead to a less unfavourable situation by 2010. But there will be about 200.000 families (1.200.000 people) in the rural areas for which agriculture can no longer constitute their source of income.

4. The option for diversification of land use is accompanied by an option to develop the key resources of the swamps and basins that provide the opportunity to alleviate the pressure on the highlands.

5. The plan to develop the production system requires the re-creation of agricultural production units at a higher-level in order to resolve the pauperisation of the rural population. The reduction in the number of small-holdings for the benefit of higher-level production units should go hand in hand with more specialized production and a decrease in the population of the agricultural sector.

6. The plan is based on improving the production system by two principles: modifying crop rotation and proposing measures for promoting new types of agriculture according to the regional agro-economic characteristics.

7. The plan will help various social classes to gain income:

(i) Exploitation of mountainous areas and dry savannah land

(ii) Exploitations by mixed farming

(iii) Intensive exploitation of swamps on the outskirts of towns.

This implicitly requires a different technical and economic approach.

8. The above-mentioned pillars of the agricultural policy may influence the agricultural sector performance by reducing the number of self-sufficient

peasants, by changing the method of cultivation and the peasant organization for production.

9. The above-mentioned pillars should lead to growth in the gross income of the national economy by reducing non-profitable exploitation and those peasants beneath the threshold of rural poverty.

10. On the macro-economic plane, the scenario responds to the need for increasing the size of the local market. If manpower productivity increases, national-level productivity will also be improved. This hypothesis, however, may result in part of GDP in rural areas being reduced, even if there is increased productivity on each farm. Consequently, some transfer of GDP will occur to the benefit of the non-agricultural sector which should be able to absorb a certain proportion of the available manpower.

11. In consequence, the restructuring of the agricultural economy will result in labor drift from agriculture to off-farm activities in rural and urban areas.

12. The success of this policy will depend upon the measures taken to remove constraints upon development of the private sector. Land reform and restructuring the extension service are necessary conditions for the strategy.

CONCLUSION

The strategy to be adopted for promoting and implementing the rural development process depends on the analysis of constraints and will involve better food production, sufficient provision of energy sources from firewood and biomas energy and a higher incomes and cash generation.

a) For an improved agricultural productivity

- Improving soil fertility by controlling erosion and correctly applying fertilizer
- Improving the sanitary services
- Guaranteeing the supply of selected seeds or improved varieties
- Improving manpower productivity

b) For improved animal productivity

- Quantitatively and qualitatively improving fodder plant production
- Improving veterinary services
- Improving animal breeding

c) For energy self-sufficiency

- Integrating ligneous method in agricultural and animal production
- Improving the efficiency of combustion.
- Introducing appropriate technology to provide solar and biomas energy

d) For long-term generation of cash income

-Improving profitability of agricultural production (coffee, banana, etc.) and animal production
- Diversifying into fruits and market gardening production
- Developing the processes for transformation and preservation of the agricultural products to give a better value
- Creating more employment
- Introducing more money-generating schemes (arts and crafts, wood production for timber and energy)

This proposed strategy and its feasibility depend upon the medium-term biophysical and socio-economic constraints (education level, etc.).

The main constraints which are necessary to take into account are:

- Efficient use of water
- Climatic hazards and the mountainous landscape
- High rural population density
- Inadequate infrastructure which does not facilitate commercialisation.